

**Amended Claims With Mark-ups to Show Changes Made**

5. (Amended) The apparatus of claim [1] 2, wherein the plurality of channels comprise an In-phase channel and a Quadrature channel.

10. (Amended) A signal processor, comprising:  
a digitizer, which receives an analog signal and generates a digital signal, wherein the digitizer comprises:

a sampler, which receives and samples the analog signal,

a zero order hold circuit, which receives an output of the sampler

and determines an amplitude of the received signal, and

a quantizer, which receives an output of the zero order hold circuit

and generates the digital signal,

a channel separator, which receives the digital signal from the digitizer and separates the digital signal into at least 2 channels, each channel having a different phase; and

a phase shift controller, which receives a clock signal and controls the phase shifting of the channel separator.

**Clean Set of Amended Claims**

5. (Amended) The apparatus of claim 2, wherein the plurality of channels comprise an In-phase channel and a Quadrature channel.

10. (Amended) A signal processor, comprising:  
a digitizer, which receives an analog signal and generates a digital signal, wherein the digitizer comprises:  
a sampler, which receives and samples the analog signal,  
a zero order hold circuit, which receives an output of the sampler and determines an amplitude of the received signal, and  
a quantizer, which receives an output of the zero order hold circuit and generates the digital signal,  
a channel separator, which receives the digital signal from the digitizer and separates the digital signal into at least 2 channels, each channel having a different phase; and  
a phase shift controller, which receives a clock signal and controls the phase shifting of the channel separator.

C. Please add new claims 22-42 as follows:

22. (New) A method comprising:

converting an analog signal to a digital signal in an analog-to-digital converter; and  
separating components of the digital signal from the digital signal in the analog-to-digital converter.

23. (New) The method of claim 22, wherein the components of the digital signal are:

an in-phase component of the digital signal; and  
a quadrature component of the digital signal.

24. (New) The method of claim 22, wherein said separating components of the digital signal from the digital signal utilizes at least one of:

at least one buffer;  
at least one latch;  
at least one flip-flop; and  
at least one formatter.

25. (New) The method of claim 22, wherein the analog signal embodies a CDMA communication signal.

26. (New) The method of claim 23, wherein:

an in-phase component of the digital signal is associated with an in-phase component of the analog signal;

the quadrature component of the digital signal is associated with the quadrature component of the analog signal; and

the quadrature component of the analog signal is 90 degrees out of phase with the in-phase component of the analog signal.

27. (New) The method of claim 22, wherein the converting the analog signal to the digital signal comprises:

sampling the analog signal to produce a sampled analog signal; and

quantizing the sampled analog signal to produce the digital signal.

28. (New) The method of claim 27, wherein sampling the analog signal comprises sampling at a frequency that is four times the frequency of each component of the digital signal.

29. (New) The method of claim 28, wherein the separating components of the digital signal from the digital signal comprises:

outputting on a first channel bits of the digital signal that are associated with the in-phase component of the digital signal; and

outputting on a second channel bits of the digital signal that are associated with the quadrature component of the digital signal.

30. (New) The method of claim 29, wherein:

each bit of said bits of the digital signal that are associated with the in-phase component of the digital signal is separated by three consecutive bits that are not associated with the in-phase component of the digital signal;

each bit of said bits of the digital signal that are associated with the quadrature component of the digital signal is separated by three consecutive bits that are not associated with the quadrature component of the digital signal; and

each bit of said bits of the digital signal that are associated with the in-phase component of the digital signal are adjacent a bit of said of the digital signal that is associated with the quadrature component of the digital signal.

31. (New) The method of claim 30, wherein each bit of said bits of the digital signal that are associated with the in-phase component of the digital signal are preceding a bit of said of the digital signal that is associated with the quadrature component of the digital signal.

32. (New) An apparatus configured to:

convert an analog signal to a digital signal in an analog-to-digital converter; and  
separate components of the digital signal from the digital signal in the analog-to-digital converter.

33. (New) The apparatus of claim 32, wherein the components of the digital signal

are:

an in-phase component of the digital signal; and  
a quadrature component of the digital signal.

34. (New) The apparatus of claim 32, wherein for separating components of the digital signal from the digital signal, the apparatus comprises at least one of:

at least one buffer;  
at least one latch;  
at least one flip-flop; and  
at least one formatter.

35. (New) The apparatus of claim 32, wherein the analog signal embodies a CDMA communication signal.

36. (New) The apparatus of claim 32, wherein:

an in-phase component of the digital signal is associated with an in-phase component of the analog signal;

the quadrature component of the digital signal is associated with the quadrature component of the analog signal; and

the quadrature component of the analog signal is 90 degrees out of phase with the in-phase component of the analog signal.

37. (New) The apparatus of claim 32, wherein to convert the analog signal to the digital signal comprises:

sampling the analog signal to produce a sampled analog signal; and

quantizing the sampled analog signal to produce the digital signal.

38. (New) The apparatus of claim 32, wherein to sample the analog signal comprises sampling at a frequency that is four times the frequency of each component of the digital signal.

39. (New) The apparatus of claim 38, wherein to separate components of the digital signal from the digital signal comprises:

outputting on a first channel bits of the digital signal that are associated with the in-phase component of the digital signal; and

outputting on a second channel bits of the digital signal that are associated with the quadrature component of the digital signal.

40. (New) The apparatus of claim 39, wherein:

each bit of said bits of the digital signal that are associated with the in-phase component of the digital signal is separated by three consecutive bits that are not associated with the in-phase component of the digital signal;

each bit of said bits of the digital signal that are associated with the quadrature component of the digital signal is separated by three consecutive bits that are not associated with the quadrature component of the digital signal; and

each bit of said bits of the digital signal that are associated with the in-phase component of the digital signal are adjacent a bit of said of the digital signal that is associated with the quadrature component of the digital signal.

41. (New) The apparatus of claim 40, wherein each bit of said bits of the digital signal that are associated with the in-phase component of the digital signal are preceding a bit of said of the digital signal that is associated with the quadrature component of the digital signal.

42. (New) An apparatus comprising:

an analog-to-digital converter;

*ABSTRACT*

a means for converting an analog signal to a digital signal in the analog-to-digital converter; and

a means for separating components of the digital signal from the digital signal in the analog-to-digital converter.

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